

## CLIMATOLOGICAL DATA FOR MAY, 1913.

## DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

## GENERAL SUMMARY.

With respect to conditions in different parts of the district the climatological features of May, 1913, exhibited greater contrasts than usual. In North Dakota and northwestern Minnesota the weather was dry and comparatively cool; in central sections the month was wet and slightly cooler than usual; while in southern Missouri and Illinois droughty conditions obtained, and there was a slight excess of temperature. Considering the district as a whole, however, the month was relatively cool and wet. In Iowa and surrounding territory the wet weather greatly interfered with corn planting and other outdoor work, but favorable conditions during the closing days of the month enabled a great amount of the delayed work to be brought up to date. In the southern parts of the Missouri and Illinois areas the need of moisture was becoming urgent at the close of the month. Frosts that proved damaging locally occurred on the 10th and 11th, as well as on the 23d; but there was no widespread injury from that source during the month in this district. The most severe storm was that of the 13th in Iowa, where at some points it closely approached tornadic conditions, and considerable property was destroyed in and about Alta. The appearance of the storm clouds as they neared Des Moines, Iowa, was most ominous, and this, together with the memories of the recent Omaha tornado, caused much apprehension. Fortunately, however, only a severe thunderstorm resulted. Press dispatches chronicle the instant death of Miss Ella Stuckenbruck, by lightning on the afternoon of the 21st. She was about to lock the door of the school where she was teaching, near Belle Plaine, Iowa.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

Parts of States within District 5.	Temperature.				Precipitation.					
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipitation.
North Dakota.....	51.1	-1.5	100	11	1.65	-1.00	4.00	0.59	.....	9
Minnesota.....	53.0	-1.8	99	19	3.46	+0.28	5.98	1.05	.....	11
South Dakota.....	53.5	-3.0	92	24	3.20	+0.65	3.97	2.42	.....	12
Wisconsin.....	54.4	-1.3	91	17	5.36	+1.68	8.77	0.90	.....	13
Iowa.....	59.2	-0.7	96	30	6.37	+1.96	10.25	3.87	.....	13
Missouri.....	65.3	+0.9	100	33	2.93	-1.36	9.12	0.88	.....	9
Indiana.....	59.6	-0.2	86	27	5.61	+1.49	6.67	4.38	.....	12
Illinois.....	62.2	+0.1	98	28	3.47	-0.68	8.32	0.41	.....	9

## TEMPERATURE.

The mean temperature for the district was 56.9°, or 0.9° lower than the normal. In the southern two-thirds of Illinois and over the Indiana and Missouri areas the month was slightly warmer than usual; over the remainder of the district there was a deficiency in temperature, which reached 3° or 4° in North Dakota. Cairo, Ill., with a mean temperature of 68.4°, was the warmest point, and Hannah, N. Dak., with a mean of 47.1°, the coolest point. In a great majority of cases the lowest temperature of the month at the various stations occurred either on or about the 6th or 10th; at those times frosts formed southward into Iowa and northern Illinois, but only nominal damage resulted. Another cool spell prevailed about the 23d with some frost reported. The lowest temperature recorded was 11°, at Bottineau, N. Dak., on the 11th. In parts of Wisconsin and Illinois, and in Indiana, the highest monthly temperatures occurred on the 1st or 2d, but over the remainder of the district they were observed some time during the closing five days. Exceptionally high temperatures for May occurred during this latter period, and in some instances all previous records for the month were surpassed. At Des Moines, Iowa, the highest temperature on the 29th was 96°, which is 2° higher than ever before recorded in May. The highest temperature reported in the district was 100°, at McKinney, N. Dak., on the 28th, and at Steffenville, Mo., on the 31st.

## PRECIPITATION.

In some parts of the district the month was the wettest May in years, if not on record, while in other sections droughty conditions obtained. A few stations in Iowa and one station in Missouri reported more than 9 inches of rainfall, while a small area in southern Illinois had less than half an inch. The month was dry in the southern Missouri and Illinois areas, and in North Dakota and northwestern Minnesota. The average precipitation for the whole district was 4.33 inches, or 0.57 inch more than the normal. The greatest amount reported was 10.25 inches, at Britt, Iowa, and the least was 0.41 inch, at Windsor, Ill. In the small Missouri area the distribution of the rainfall was decidedly irregular, two observers within 30 miles of each other reporting too much moisture, and damage from drought, respectively. Steffenville, Mo., reported a fall of 9.12 inches, while at Louisiana, Mo., only 0.88 inch fell. Both stations had 7 rainy days. The greatest amount of precipitation reported in 24 consecutive hours was 3.04 inches, at Dwight, Ill., on the 20th-21st.

*Snow.*—Light snow occurred at a few points in the extreme northern part of the district, Leech Lake Dam, Minn., reporting a monthly total of 1 inch.

#### RIVERS.

Moderately high stages prevailed in the Mississippi all the month, but no flood stages were reached. As a rule, the highest stages of the month occurred at its close. During the last week of the month the Illinois River at La Salle covered the bottom lands, and some corn was ruined. The estimated damage was \$5,000.

#### MISCELLANEOUS.

The sunshine was deficient over those regions where the rainfall was heavy, but elsewhere there was the normal amount or more. The average number of clear days was 12; partly cloudy, 9; cloudy, 10. The prevailing

winds were northwesterly, but at many stations, especially in southern sections, the prevailing direction was southwesterly. The highest velocity reported was 52 miles an hour from the southwest, at St. Paul, Minn., on the 1st.

#### ERRATA.

Report for April, 1913.—Charles City, Iowa: Total precipitation published, 1.98, should be 2; departure from the normal published  $-0.85$ , should be  $-0.83$ ; precipitation on 10th published 0.73, should be 0.75; mean maximum temperature published 60.2, should be 60.1. Hettinger, N. Dak.: Mean monthly temperature published 47.6, should be 47.4. Minto, N. Dak.: Greatest 24-hour precipitation published 0.19, should be 0.22. Merrill, Wis.: Monthly minimum temperature published 20, should be 18 on 20th. Sugar Creek Dam, Wis.: Number of partly cloudy days published 2, should be 3.

TABLE 1.—Climatological data for May, 1913. District No. 5, Upper Mississippi Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.			Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>North Dakota.</i>																				
Amenia.	Cass.	954	17	52.1	-2.4	98	27	24	10	51	0.95	-2.14	0.38	0	4	12	6	13	nw.	C. E. Wood.
Bottineau.	Bottineau.	1,638	21	49.9	-1.3	94	27	11	5	46	1.09	-1.19	0.24	0	12	5	8	18	se.	H. F. Steinmeyer.
Bowbells.	Burke.	1,958	1	49.4	-	93	27	23	6	47	1.40	-	0.33	0	10	17	1	3	.....	G. H. Phelps.
Cando.	Towner.	1,488	12	53.9	+3.2	94	27	15 <sup>a</sup>	12	55 <sup>d</sup>	1.88	-0.95	0.65	0	9	16	8	7	se.	E. T. Judd.
Crosby.	Divide.	6	48.8	8	2.5	89	27	22	2	42	1.54	-	0.37	0	10	8	15	ne.	H. C. Kaschau.	
Devils Lake.	Ramsey.	1,482	8	50.2	-2.5	92	27	26	13	37	0.88	-1.32	0.29	0	10	13	3	15	U. S. Weather Bureau.	
Donnybrook.	Ward.	1,760	14	49.9	0.0	92	28	24	6	45	1.99	-0.58	0.65	0	12	13	8	7	.....	C. J. De Vore.
Dunseath.	Rolette.	17	50.0	-2.4	91	27 <sup>a</sup>	26	6 <sup>b</sup>	43	1.51	-0.18	0.56	-	0	11	9	14	8	nw.	C. E. Goodsell.
Eckman.	Bottineau.	7																	Geo. Yenny.	
Fessenden.	Wells.	1,610	1	51.0	-	97	27	26	2 <sup>c</sup>	48	0.96	-	0.34	T.	7	10	5	16	nw.	G. T. Seymour.
Forman.	Sargent.	1,249	21	54.0	-1.5	93	27 <sup>a</sup>	28	6	41	3.27	+0.37	0.83	0	14	9	12	10	nw.	A. Matby.
Grafton.	Walsh.	827	21	50.6	-2.6	95	27	22	6	45	1.44	-0.79	0.82	0	10	14	4	13	sw.	A. R. Wylie.
Granville.	McHenry.	1,504	6																W. A. Christianson.	
Hannah.	Cavalier.	1,568	8	47.1	-	91	27	20	2 <sup>c</sup>	46	1.19	-	0.31	0	8	9	7	15	.....	J. Moffatt.
Hansboro.	Towner.	5	49.6	-	92	27	24	2 <sup>c</sup>	40	1.68	-	0.35	0	8	14	12	5	nw.	Geo. Dale.	
Hillboro.	Traill.	901	7	52.6	-	93	27 <sup>a</sup>	27	6 <sup>b</sup>	42	1.38	-	0.38	0	10	12	14	5	nw.	F. E. Mayall.
Lakota.	Nelson.	1,579	12	49.0	-1.1	92	27	23	2	45	1.31	-1.19	0.37	T.	9	9	22	4	nw.	C. R. Pettes.
Landson.	Cavalier.	1,615	17																J. Woolner.	
Larimore.	Grand Forks.	1,134	18	50.6	-2.1	96	27	23	2 <sup>c</sup>	43	1.81	-0.57	0.37	0	11	15	5	11	nw.	J. M. Freeman.
Lisbon.	Ransom.	1,091	9	53.6	+1.1	97	27	26	6	51	2.47	-1.30	0.37	0	9	12	5	14	nw.	W. S. Adams.
McKinney.	Renville.	1,640	19	50.9	-1.2	100 <sup>a</sup>	28	24 <sup>a</sup>	6	49	1.01	-1.17	0.55	0	3	20	8	8	nw.	N. P. Swenson.
McLeod.	Ransom.	1	52.0	-	93	27	21	6	41	4.00	-	1.98	0	12	3	15	8	nw.	Martin Reinholdt.	
Mahrt.	Wells.	1,608	10	52.4	+1.4	95	27	25	5 <sup>b</sup>	48	2.08	-0.64	0.90	0	7	13	10	8	nw.	P. B. Anderson.
Mayville.	Traill.	975	17	52.2	-1.9	96	28	23	10	44	1.81	-1.14	0.50	0	10	13	5	13	.....	W. C. Gould.
Minot.	Ward.	1,097	1																H. J. Edman.	
Minto.	Walsh.	1,557	17	51.8	-0.5	93	27	25	6	42 <sup>a</sup>	1.62	-0.49	0.54	0	9	11	11	7	nw.	Louise Bates.
Oriska.	Barnes.	1,270	8	53.4	-	96	27	23	2 <sup>c</sup>	43	1.43	-	0.44	0	10	3	21	7	nw.	S. S. Marsh.
Park River.	Walsh.	998	9	51.4	-	93	27	23	6	38	1.19	-	0.52	0	12	15	11	5	ne.	J. J. Taylor.
Pembina.	Pembina.	789	39	48.8	-3.6	92	27	22	1	43	0.59	-2.04	0.42	0	4	11	4	16	w.	C. W. Shumaker.
Power.	Richland.	1,020	21	51.4	-3.1	94 <sup>a</sup>	27	26	6	42 <sup>a</sup>	2.22	-0.60	0.54	0	7	9	7	15	nw.	J. A. Power.
Towner.	McHenry.	11	52.0	-1.2	93	27	23	6	45	1.39	-1.52	0.34	0	9	6	6	19	nw.	B. Bagley.	
University.	Grand Forks.	830	21	51.2	-2.5	92	27	25	9	42	1.48	-1.08	0.43	0	11	13	5	13	nw.	U. S. Weather Bureau.
Wahpeton.	Richland.	962	19	51.4	-4.4	94	27	25	6	41	1.57	-1.23	0.60	0	12	4	15	nw.	Fred E. Smith.	
Walhalla.	Pembina.	966	6																Ivanhoe Lee.	
Westhope.	Bottineau.	7	51.1	-	96	27	23	6	48	1.87	-	0.75	0	9	11	17	3	ne.	W. A. Meddaugh.	
Willow City.	do.	1,471	21	50.8	-1.1	94	28	22	6	49	1.16	-0.84	0.55	0	9	4	22	5	nw.	M. A. Ostby.
<i>Minnesota.</i>																				
Albert Lea.	Freeborn.	1,229	22	57.4	-0.6	91	29	34	10	47	5.85	+1.66	1.25	0	9	12	12	7	sw.	Edward Carey.
Alexandria.	Douglas.	1,391	19	52.4	-1.8	91	27	32	10	38	4.59	+1.19	1.73	0	11	9	19	8	sw.	P. O. Unumb.
Angus.	Polk.	870	11	49.8	-2.2	99	27	23	6 <sup>b</sup>	55	1.18	-1.47	0.40	0	9	14	9	8	sw.	John Nadvornik.
Bagley.	Clearwater.	7																	Jens Nelson.	
Baudette.	Beltrami.	1,084	3	49.0	-	86	27	24	10	39	2.18	-	0.80	T.	13	12	11	8	nw.	J. A. Gjelhaug.
Beardsley.	Big Stone.	1,090	17	56.0	-0.5	94	27	30	10	39	4.51	+1.35	0.99	0	12	5	19	7	nw.	G. L. Fitzgerald.
Bemidji.	Beltrami.	1,400	9																C. W. Warfield.	
Bird Island.	Renville.	1,039	23	55.0	-1.7	89	27	30	10	38	3.52	+0.34	0.59	0	14	6	9	16	nw.	Dr. F. L. Puffer.
Brainerd.	Crow Wing.	1,215	7	53.5	-	95	27	27	10	48	3.08	-	0.82	0	13	15	8	8	ne.	Theodore Miller.
Caledonia.	Houston.	1,179	20	56.9	-0.5	86	29	36	10 <sup>a</sup>	33	4.66	-0.06	0.80	0	11	11	6	14	nw.	W. D. Belden.
Campbell.	Wilkin.	984	7	52.4	-	91	31	28	6	41	3.73	-	0.92	0	13	13	2	16	nw.	J. T. Neiss.
Cass Lake.	Cass.	1,300	6																C. W. Burns.	
Collegeville.	Stearns.	1,282	20	53.3	-3.0	89	27	31	25	34	5.25	+2.12	1.71	0	13	11	9	11	ne.	F. Tembreull.
Crookston.	Polk.	863	24	51.0	-2.5	91	27	29	8	39	3.05	-1.84	0.38	0	8	12	3	16	s.	A. G. Andersen.
Detroit.	Becker.	1,364	17	50.4	-2.6	92	27	25	9	44	2.63	-1.12	0.55	0	8	15	8	8	nw.	G. W. Peoples.
Ely.	St. Louis.	1																	Iver Wisted.	
Fairmont (near).	Martin.	1,240	26	55.5	-1.2	90	29	36	9	38	4.92	+0.88	1.06	0	10	9	10	12	nw.	W. F. Wherland.
Faribault.	Rice.	1,003	15																Dr. A. B. Moulton.	
Farmington.	Dakota.	902	25	55.6	-0.9	91	28 <sup>a</sup>	30	10	45	3.48	-0.00	0.87	0	12	10	5	16	nw.	E. D. Akin.
Fergus Falls.	Ottertail.	1,210	21	53.8	-1.6	89	27	34	1 <sup>c</sup>	37	3.78	+0.52	0.62	0	13	13	9	9	nw.	C. E. Kissinger.
Fort Ripley.	Crow Wing.	1,136	5	52.3	-	90	27	24	10	42	3.46	+0.12	1.10	0	9	13	0	18	s.	J. J. Tucker.
Fosston.	Pine.	1,289	3	48.0	-	88	27	25	6 <sup>b</sup>	35	1.39	-	0.30	0	13	15	3	3	nw.	O. N. Hem.
Glencoe.	McLeod.	1,000	16	55.0	-1.8	89	27 <sup>a</sup>	32	9	39	2.40	-1.24	1.50	0	5	14	17	0	nw.	L. V. Koos.
Grand Meadow.	Mower.	1,238	25	54.2	-1.4	88	29	29	10	38	5.32	+0.57	1.27	0	13	11	6	14	nw.	C. F. Greening.
Gull Lake Dam.	Cass.	1,215	2	52.2	-	87	27 <sup>a</sup>	31	10	43	3.77	-	0.67	T.	13	9	15	7	nw.	U. S. Engineer Corps.
Hallock.	Kittson.	815	14	50.3	-2.6	94	27	22	6 <sup>b</sup>	47	1.15	-1.55	0.40	0	10	10	9	12	nw.	D. A. Robertson.
Halstead.	Norman.	870	7	50.6	-	93	27	24	6 <sup>b</sup>	47	1.13	-	0.24	0	8	16	0	15	ne.	A. G. Holstrom.
Hinckley.	Pine.	1,050	8	52.2	-	90	27	28	9	40	1.88	-	0.95	0	6	13	7	11	ne.	W. R. Newman.
International Falls.	Koochiching.	1,112	10	50.2	+0.6	85	27	25	10	45	4.73	+1.96	1.49	T.	10	6	12	13	nw.	C. M. Ardies.
Itasca State Park.	Clearwater.	1,500	2	50.2	-	89	27	20	9	43	2.08	-	0.54	0	12	10	14	7	s.	J. A. Stillwell.
Lake Crystal.	Blue Earth.	5	55.6	-	88	29	36	5 <sup>b</sup> </												

TABLE 1.—Climatological data for May, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest,	Date.	Lowest,	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<b>Minnesota—Continued.</b>																					
Reeds Landing.....	Wabasha.....	681	17	54.4	.....	91	28	27	10	40	4.05	+ 0.01	0.74	0	10	12	0	19	se.	John Deschneau.	
Rochester.....	Olmsted.....	991	8	54.4	.....	89	27	20	6†	45	4.57	.....	0.98	0	11	12	4	15	se.	Mary P. Leslie.	
Roseau.....	Roseau.....	1,040	3	48.6	.....	1.0	88	28	28	10	37	4.93	+ 1.10	0.93	0	11	16	12	3	nw.	M. J. Hegland.
St. Charles.....	Winona.....	850	22	55.5	.....	0.2	95	28	31	25	47	4.26	+ 0.16	1.20	0	12	14	3	14	se.	S. W. Gleason.
St. Cloud.....	Sherburne.....	1,020	36	56.1	.....	2.3	92	27	37	9	36	2.95	- 0.67	1.20	0	15	15	9	11	nw.	State Reformatory.
St. Paul.....	Ramsey.....	940	42	55.9	.....	1.5	92	29	30	10	37	3.03	- 0.58	0.65	0	13	13	11	7	s.	U. S. Weather Bureau.
St. Peter.....	Nicollet.....	825	18	56.4	.....	3.7	84	27	25	10	38	3.48	+ 0.19	0.97	0	12	6	10	6	nw.	State Hospital.
Sandy Lake Dam.....	Aitkin.....	1,234	20	48.4	.....	3.7	84	27	25	10	38	3.27	.....	1.30	T.	7	11*	10*	9*	w.	U. S. Engineer Corps.
State Sanatorium.....	Cass.....	5	52.2	.....	92*	28	28	9	50*	28	3.27	.....	1.27	0	7	20	1	10	nw.	Dr. G. W. Beach.	
Stillwater.....	Washington.....	694	7	.....	.....	.....	.....	.....	.....	.....	1.18	0	11	13	11	7	7	7	7	nw.	Oscar Ostrom.
Taylor Falls.....	Chisago.....	759	6	55.0	.....	89	27	26	4	42	3.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	Minneapolis Gen. Elec. Co.
Thief River Falls.....	Pennington.....	1,137	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Lown.	
Tracy.....	Lyon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. H. Rowland.	
Warren.....	Marshall.....	859	1	52.8	.....	99	27	26	6†	52	1.57	.....	0.50	T.	6	9	10	12	.....	P. H. Sawyer.	
Warroad.....	Rousseau.....	1,069	3	48.8	.....	85	27	23	6†	41	2.04	.....	0.75	0	8	12	10	9	w.	H. H. Haight.	
Winnebago.....	Faribault.....	1,100	15	56.4	- 2.0	94	29	33	9	36	4.17	- 0.10	1.10	0	12	14	5	12	nw.	U. S. Engineer Corps.	
Winnibigoshish.....	Itasca.....	1,300	25	49.7	- 2.1	87	27	25	9	41	3.85	+ 0.89	0.85	0	12	10	12	9	w.	P. C. Myers.	
Winona.....	Winona.....	700	17	59.0	- 0.9	91	28	31	10	42	5.98	+ 1.16	1.23	0	15	9	8	14	nw.	M. P. Mann.	
Worthington.....	Nobles.....	1,593	18	53.1	- 3.3	87	29	32	6	31	5.09	+ 1.30	1.30	0	15	10	1	20	nw.	W. C. Rowell.	
Zumbrota.....	Goodhue.....	917	17	55.0	- 2.8	87	28†	27	10	35	3.65	.....	0.55	T.	10	11	13	7	nw.	.....	
<b>South Dakota.</b>																					
Milbank.....	Grant.....	1,148	22	52.8	- 3.0	92	27	24	1	40	3.97	+ 0.65	1.13	0	12	11	7	13	nw.	Miss Mary Patridge.	
Sisseton.....	Roberts.....	1,202	7	54.2	.....	88*	27†	34*	1†	36b	2.42	.....	1.10	0	6	6	13	4	14	nw.	George Gray.
<b>Wisconsin.</b>																					
Antigo.....	Langlade.....	1,489	19	53.2	- 0.8	84	28	27	10	39	5.92	.....	1.10	0	12	18	0	13	w.	Elton C. Larzelere.	
Barron.....	Barron.....	1,115	22	53.2	- 0.1	86	28	24	10	39	5.64	+ 1.35	1.20	0	14	11	5	4	se.	Wm. A. Kent.	
Beloit.....	Rock.....	750	47	57.7	- 1.1	85	1	30	10†	35	6.12	+ 2.54	1.80	0	13	13	10	8	s.	Smith Observatory.	
Big St. Germain Dam.....	Villas.....	1,590	3	50.5	.....	83	28	23	10	42	3.83	.....	1.14	0	13	11	14	6	w.	Fred Hessen.	
Brodhead.....	Green.....	812	15	58.8	- 0.7	86	29†	28	11	37	6.77	+ 3.00	2.05	0	11	15	10	6	sw.	Hector D. Kirkpatrick.	
Burnett.....	Dodge.....	880	9	55.2	.....	84	28	21	10	37	5.80	.....	1.37	0	13	4	5	15	12	nw.	George W. Smith.
Cornell.....	Chippewa.....	993	1	54.2	.....	84	28	26	10	39	4.19	.....	1.06	0	15	11	10	10	sw.	Brunet Falls Mfg. Co.	
Cottage Grove.....	Dane.....	888	2	.....	.....	83	1	27	10	38	6.34	.....	1.48	0	14	14	8	9	sw.	John E. Mellish.	
Darlington.....	Lafayette.....	867	7	57.6	.....	85	1†	28	10†	42	7.98	.....	2.00	0	9	16	0	15	nw.	Sever P. Nelson.	
Deerskin Dam.....	Forest.....	1,685	3	50.0	.....	82	1†	20	10	45	3.33	.....	0.74	0	9	8	13	10	w.	Wm. E. O'Neal.	
Delavan.....	Walworth.....	920	22	56.3	- 1.3	83	1	27	10	38	5.22	+ 1.48	1.20	0	11	10	7	14	sw.	Elwood S. Austin.	
Dodgeville.....	Iowa.....	1,220	13	52.3	.....	83	1†	22	10	43	3.75	.....	.....	0	12	18	0	13	.....	Chas. H. Berryman.	
Downing.....	Dunn.....	983	11	52.8	- 2.1	88	29	20	10†	45	2.42	- 2.15	0.90	0	8	8	0	23	se.	Eugene F. Stoddard.	
Eau Claire.....	Eau Claire.....	800	22	56.2	- 1.0	87	28†	30	10	42	4.47	+ 0.10	1.04	0	13	6	16	9	s.	Robert D. Whitford.	
Glen Flora.....	Rusk.....	1,475	1	51.8	.....	89	31	21	10	48	3.56	.....	0.80	0	8	14	12	5	s.	G. A. Durgin.	
Grand Rapids.....	Wood.....	980	14	54.4	- 2.0	85	1	26	10	42	6.84	+ 2.25	1.25	0	16	13	2	16	ne.	Geo. T. Nixon.	
Grantsburg.....	Burnett.....	1,095	22	53.6	- 1.3	91	28†	26	10	41	3.75	- 0.36	1.10	0	6	17	6	8	ne.	Chester Ahlstrom.	
Hancock.....	Waushara.....	1,091	1	56.6	- 0.2	86	1	30	10	39	8.44	+ 4.29	2.12	0	13	7	11	13	nw.	Frederick B. Hamilton.	
Hatfield.....	Jackson.....	973	19	54.2	- 4.4	87	28	26	10	47	5.09	+ 0.27	1.25	0	10	7	11	13	se.	Wis. Ry., Light & Pow. Co.	
Hayward.....	Sawyer.....	1,107	22	52.3	.....	83	1†	22	10	43	3.75	.....	.....	0	12	18	0	13	.....	A. E. Johnson.	
Hillsboro.....	Vernon.....	1,000	22	54.8	- 0.9	85	30	28	10†	44	7.77	+ 3.41	2.58	0	10	10	15	6	e.	Emil V. Wernick.	
Koepenick.....	Langlade.....	1,683	22	52.3	- 1.9	85	2	22	10	38	5.10	+ 1.39	0.80	0	12	14	2	15	sw.	Edward S. Koepenick.	
La Crosse.....	La Crosse.....	714	41	57.6	- 1.9	88	28	33	10	35	5.60	+ 1.85	1.76	0	14	2	14	15	s.	U. S. Weather Bureau.	
Lake Mills.....	Jefferson.....	897	22	56.5	- 0.7	84	28†	28	10	34	7.23	+ 2.90	2.48	0	12	16	7	9	sw.	S. Newton Dexter Smith.	
Lancaster.....	Grant.....	1,070	22	57.0*	- 1.3	88	28	30	10	36	3.02	+ 3.64	1.92	0	11	9	6	10	w.	Edward Pollock.	
Long Lake.....	Oneida.....	1,502	5	50.1	.....	83	28	17	10	46	3.60	.....	0.79	0	13	8	16	7	se.	Louis Frank.	
Madison.....	Dane.....	974	44	56.6	- 1.0	81	1	33	10	29	6.63	+ 3.01	1.94	0	15	4	12	15	sw.	U. S. Weather Bureau.	
Marshfield.....	Wood.....	1,276	0	53.0	.....	83	1	27	10	41	6.22	.....	2.00	0	14	11	5	15	nw.	Agr. Exper. Station.	
Mather.....	Junesau.....	962	9	53.9	.....	85	1†	30	10†	41	6.77	.....	1.19	0	15	11	5	15	e.	Frank Evans.	
Mauston.....	Sauk.....	882	17	55.9	- 0.4	83	1	29	10	36	7.15	+ 2.54	2.00	0	12	14	8	9	sw.	Eugene L. Hitchcock.	
Meadow Valley.....	Taylor.....	974	22	55.4	- 0.9	87	1	28	10	41	5.70	+ 1.39	1.57	0	12	3	21	7	nw.	Charles H. Johnson.	
Medford.....	Lincoln.....	1,420	24	52.8	- 1.3	84	28	27	10†	42	4.58	+ 0.17	1.10	0	12	16	7	8	s.	Wm. Zeit.	
Merrill.....	Oneida.....	1,267	7	54.4	.....	87	28	27	10	46	4.71	.....	1.03	0	8	9	9	13	sw.	O. F. Lueck.	
Minoqua.....	Buffalo.....	1,604	9	51.8	.....	83	28†	21	10	39	4.41	.....	1.10	0	14	8	17	6	sw.	Benjamin W. Applebee.	
Mondovi.....	Douglas.....	738	5	55.4	.....	86	27	28	10	43	4.50	.....	1.15	0	18	14	6	11	nw.	Dr. Chas. Hebard.	
Mount Horeb.....	Grant.....	1,226	4	57.6	.....	83	30	27	10	36	7.08	.....	2.01	0	11	11	6	14	s.	Wm. Hessler.	
Muscosa.....	Crawford.....	668	4	57.6	.....	88	30	33	11	46	6.39	.....	1.16	0	12	14	0	17	sw.	Wm. Heaslett.	
New Richmond.....	Clark.....	996	23	54.9	- 0.9	90	28	28	10	44	6.55	+ 2.18	1.95	0	9	7					

TABLE 1.—Climatological data for May, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmailed.	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.	
<i>Iowa.</i>																	
Albia.....	Monroe.....	959	15	62.1	+ 1.1	92	29	36	11	39	5.82	+ 1.49	1.05	0	14	2	J. I. Chenoweth.
Algona.....	Kossuth.....	1,213	39	57.6	- 1.9	91	29	37	10	39	9.04	+ 5.36	2.00	0	12	15	Dr. F. T. Seeley.
Alta.....	Buena Vista.....	1,513	22	57.4	- 0.6	94	29	36	10	33	6.84	+ 2.06	2.15	0	12	8	David E. Hadden.
Amana.....	Iowa.....	721	37	60.7	+ 0.7	89	29	35	11	33	7.22	+ 2.82	1.77	0	15	10	C. Schadt.
Ames.....	Story.....	926	37	59.8	+ 0.3	94	29	36	6	39	7.74	+ 3.42	2.02	0	13	7	Iowa State College.
Baxter.....	Jasper.....	998	13	59.2	- 1.2	92	30	34	11	37	5.55	+ 0.35	1.22	0	18	5	W. R. Vandike.
Belle Plaine.....	Benton.....	886	23	59.2	- 0.3	90	29	36	6†	37	7.11	+ 2.45	1.74	0	13	8	O. C. Burrows.
Belmond.....	Wright.....	1,184	3	57.1	.....	90	28†	36	6	40	6.39	.....	1.27	0	11	12	Geo. P. Hardwick.
Bloomfield.....	Davis.....	881	6	62.2°	.....	91	31	32	11	35	5.32	.....	1.33	0	15	7	Albert Power.
Bonaparte.....	Van Buren.....	22	62.1	- 0.2	88	30†	36	11	33	5.67	+ 1.64	2.40	0	15	.....	.....	B. R. Vale.
Boone.....	Boone.....	8	59.0	.....	93	29	37	6†	39	6.40	.....	1.02	0	13	8	C. F. Henning.	
Britt.....	Hancock.....	1,236	16	55.6	- 1.5	90	29	35	6	37	10.25	+ 5.99	1.78	0	16	4	L. M. Goodman.
Burlington.....	Des Moines.....	544	17	62.4	- 1.4	90	28	35	11	41	4.22	+ 0.37	0.80	0	12	2	Max. E. Poppe, Jr.
Carroll.....	Carroll.....	1,265	23	57.8	- 1.1	94	29	36	6†	35	7.63	+ 3.07	2.11	0	12	9	Mrs. Jos. J. Wolfe.
Cedar Rapids.....	Linn.....	733	31	60.2	+ 0.2	92	28	36	11	44	6.03	+ 1.45	0.95	0	11	18	R. S. Toogood.
Charles City.....	Floyd.....	1,015	22	56.5	- 3.0	89	29	35	6	38	5.55	+ 0.61	1.10	0	13	7	U. S. Weather Bureau.
Clear Lake.....	Cerro Gordo.....	1,241	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Oscar Stevens.
Clinton.....	Clinton.....	593	46	61.2	+ 1.0	92	28	34	11	38	7.07	+ 3.01	1.82	0	14	12	A. E. Reid.
Columbus Junction.....	Louisa.....	595	12	61.6	- 0.6	87	28†	35	11	31	5.74	+ 1.86	1.70	0	13	4	J. B. Johnston.
Davenport.....	Scott.....	580	42	60.9	- 0.6	88	29	35	11	31	4.89	+ 0.70	1.34	0	16	7	U. S. Weather Bureau.
Decorah.....	Winneshiek.....	875	20	59.8	+ 0.6	96	28	33	10	43	5.67	+ 1.00	0.98	0	12	.....	F. H. Baker.
Delaware.....	Delaware.....	1,083	22	56.0	- 2.3	86	28	32	11	31	7.67	+ 3.48	1.43	0	12	8	Nettie E. Ball.
Des Moines.....	Polk.....	861	35	61.3	- 0.3	98	29	41	11	34	5.06	+ 0.50	1.62	0	16	7	U. S. Weather Bureau.
Dubuque.....	Dubuque.....	639	40	59.2	- 1.6	88	28	37	10	33	8.20	+ 3.88	2.13	0	13	5	Do.
Earlham.....	Madison.....	11	59.4	- 0.6	95	29	35	6†	37	5.91	+ 1.14	1.65	0	14	9	George Phillips.	
Elkader.....	Clayton.....	727	34	57.5	- 3.0	90	28	32	11	32	6.13	+ 1.99	2.10	0	11	15	Chas. Reinecke.
Elma.....	Howard.....	1,182	3	55.2	.....	89	28	30	10	41	5.48	.....	1.05	0	14	10	H. A. Moore.
Estherville.....	Emmet.....	1,298	18	54.8	- 2.4	90	29	34	5	36	5.17	+ 0.99	0.92	0	11	11	A. O. Peterson.
Fairfield.....	Jefferson.....	730	29	61.6	+ 1.4	86	29	36	11	32	5.65	+ 0.37	1.28	0	13	15	R. M. McKenzie.
Fayette.....	Fayette.....	1,003	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Z. Latimer.
Forest City.....	Winnebago.....	1,226	19	56.5	- 1.8	88	29	37	6†	35	7.36	+ 2.97	2.20	0	11	13	J. A. Peters.
Fort Dodge.....	Webster.....	1,126	13	58.2	- 1.8	95	29	39	6†	34	5.91	+ 1.36	1.40	0	8	1	J. F. Monk.
Fort Madison.....	Lee.....	516	64	.....	.....	.....	.....	.....	.....	6.04	+ 1.64	1.50	0	11	4	Miss L. A. McCready.	
Gilman.....	Marshall.....	1,052	14	.....	.....	.....	.....	.....	.....	4.91	+ 1.09	0.89	0	14	7	J. L. Wyllie.	
Grand Meadow.....	Clayton.....	1,180	22	56.8	- 1.3	85	28	33	10	31	6.41	+ 1.55	1.65	0	15	11	F. L. Williams.
Grinnell.....	Poweshiek.....	1,023	21	60.8	+ 1.1	91	29	36	11	34	5.28	+ 0.69	1.40	0	15	5	D. W. Brainard.
Grundy Center.....	Grundy.....	976	22	59.5	+ 1.0	91	28†	35	11†	35	6.40	+ 1.24	1.67	0	13	9	J. B. Calderwood.
Guthrie Center.....	Guthrie.....	1,077	18	60.6	0.0	95	29	35	6	37	6.11	+ 1.15	1.88	0	15	6	D. G. Beardsley.
Hampton.....	Franklin.....	1,155	23	57.8	- 0.5	90	28†	35	11	37	8.04	+ 3.46	1.51	0	11	8	E. C. Grenelle.
Humboldt.....	Humboldt.....	1,095	25	57.1	- 2.3	91	29	31	11	43	5.56	+ 1.20	1.57	0	13	11	J. P. Peterson.
Independence.....	Buchanan.....	921	49	58.4	- 0.8	86	28†	33	11	33	6.21	+ 2.05	1.35	0	13	4	R. E. Dudley.
Indiana.....	Warren.....	968	22	61.1	+ 0.4	93	29	39	11	31	5.64	+ 1.00	1.32	0	15	8	Prof. J. L. Tilton.
Iowa City.....	Johnson.....	683	53	59.6	- 0.7	88	28†	31	10	39	6.91	+ 2.54	1.25	0	14	6	Prof. A. G. Smith.
Iowa Falls.....	Hardin.....	1,170	20	56.6	- 2.1	90	29	35	6	39	6.06	+ 1.86	1.32	0	11	3	J. D. Parmelee.
Jefferson.....	Greene.....	1,052	14	59.4	.....	93	29	39	6	37	8.73	+ 3.72	1.55	0	17	7	Ora M. Hall.
Keokuk.....	Lee.....	614	42	63.4	+ 0.2	90	31	36	11	32	8.87	- 0.48	1.48	0	13	11	U. S. Weather Bureau.
Keesauqua.....	Van Buren.....	644	21	61.6	- 1.0	89	29†	37	11	40	4.93	+ 0.56	1.07	0	14	9	J. H. Landes.
Knoxville.....	Marion.....	920	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Casey and Belleville.
Lacona.....	Warren.....	14	.....	.....	.....	.....	.....	.....	.....	4.01	- 1.21	0.66	0	13	7	J. B. Alter.	
Lansing.....	Allamakee.....	632	8	58.6	.....	87	1†	32	10	40	6.15	.....	1.55	0	17	5	Chas. R. Serene.
Le Claire.....	Scott.....	576	13	.....	.....	.....	.....	.....	.....	5.61	+ 1.82	1.50	0	17	16	Miss M. T. Disney.	
Marshalltown.....	Marshall.....	947	21	60.3	+ 0.6	94	29	36	11	36	6.18	+ 1.45	1.75	0	18	8	Jacob Eige.
Mason City.....	Cerro Gordo.....	1,132	16	57.4	- 1.0	94	30	32	10	40	6.26	+ 1.60	1.13	0	10	9	Dr. Roy Desart.
Monroe.....	Jasper.....	922	1	60.3	.....	90	29	36	11	36	6.51	.....	1.60	0	15	14	J. A. Dibai.
Mount Pleasant.....	Henry.....	729	32	62.2	0.0	86	28†	34	11	31	6.51	+ 2.33	2.19	0	13	6	J. W. Edwards.
Muscatine.....	Henry.....	554	53	.....	.....	.....	.....	.....	.....	6.49	+ 2.05	1.23	0	15	10	William Molls.	
New Hampton.....	Chickasaw.....	1,169	16	56.6	- 1.3	88	28	35	11	36	5.53	+ 0.89	1.05	0	12	5	A. F. Kemman.
Nora Springs.....	Floyd.....	1,064	57.6	.....	.....	.....	.....	.....	.....	6.75	+ 3.52	2.47	0	15	9	Arthur Betts.	
Northwood.....	Worth.....	1,122	17	55.6	- 2.3	90	29	33	10	38	6.93	+ 1.95	1.35	0	15	3	Chas. H. Dwelle.
Olin.....	Jones.....	760	15	59.9	- 0.1	88	28	32	11	35	8.28	+ 3.80	2.05	0	13	12	Dr. F. W. Port.
Osage.....	Mitchell.....	1,184	26	57.1	0.0	90	29	33	10	38	7.18	+ 2.42	1.35	0	10	13	Lester Coonradt.
Oskaloosa.....	Mahaska.....	843	37	58.8	- 1.6	89	29	36	11	35	4.95	+ 1.27	1.61	0	14	6	Joseph Boyd.
Ottumwa.....	Wapello.....	649	18	61.7	- 1.3	94	30	35	11	38	6.61	+ 1.97	1.40	0	11	12	Chester Potter.
Pella.....	Marion.....	877	11	60.6	- 0.7	91	29	36	6	36	7.84	+ 3.52	1.55	0	17	19	J. H. Ver Steeg.
Perry.....	Dallas.....	877	11	60.6	- 0.7	91	29	33	7	42	7.56	+ 2.86	1.80	0	9	10	S. J. Brumfield.
Pocahontas.....	Pocahontas.....	1,248	9	60.0	- 1.3	93	29	34	6	40	4.45	+ 1.45	1.23	0	13	10	F. E. Hronek.
Rockwell City.....	Calhoun.....	17	56.2	- 3.3	96	29	37	9	38	9.45	+ 4.71	1.65	0	13	10	C. M. Randall.	
Sac City.....	Sac.....	1,278	37	58.8	+ 0.2	92	29	36	6	35	7.76	+ 3.52	2.07	0	14	9	E. N. Bally.
St. Charles.....	Madison.....	1,070	12	61.3	- 0.6	92	29	38	11	33	6.06	+ 1.14	1.25	0	15	4	R. D. Minard.
Sigourney.....	Keokuk.....	877	17	60.4	- 2.6	91	29	35	11	45	5.95	+ 1.82	1.75	0	12	.....	J. T. Parker.
Stockport.....	Van Buren.....	745	11	61.4	.....	87	28†	35	11	33	5.27	+ 1.51	1.43	0	13	6	C. L. Beswick.
Storm Lake.....	Buena Vista.....	1,440	24	58.8	+ 1.2	95	29	37	10	33	7.06	+ 3.18	1.13	0	11	12	Chauncy Case.
Tipton.....	Cedar.....	80															

TABLE 1.—Climatological data for May, 1913. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
<i>Indiana.</i>																				
Collegeville.	Jasper.	14	60.5	- 0.6	86	4 <sup>a</sup>	27	10	42	6.67	+ 2.40	2.17	0	8	15	7	9	sw.	Otto Miller.	
Knox.	Starke.	716	60.6	-	83	2 <sup>f</sup>	28	11	38	5.82	-	2.37	0	13	15	13	3	nw.	W. R. R. Tatman.	
Laporte.	Laporte.	810	58.4	+ 0.1	86	2	28	10 <sup>t</sup>	40	4.38	+ 0.27	2.20	0	13	12	10	9	sw.	Wm. M. Walton, Jr.	
Plymouth.	Marshall.	790	58.9	-	83	2	29	11	35	5.57	-	2.00	0	11	13	15	3	sw.	J. W. Siders.	
South Bend.	St. Joseph.	726	20	59.6	0	84	2	30	10	32	5.61	+ 1.81	2.13	0	14	12	14	5	s.	Henry H. Swaim.
<i>Illinois.</i>																				
Aledo.	Mercer.	738	13	61.4	+ 0.1	87	28 <sup>t</sup>	34	10	35	5.62	+ 1.43	1.17	0	14	11	10	10	s.	William B. Frew.
Alexander.	Morgan.	670	20	64.2	+ 0.4	94	31	34	10 <sup>t</sup>	39	6.06	- 3.40	0.42	0	6	10	10	11	sw.	George H. Hall.
Antioch.	Lake.	861	12	57.0	- 0.3	85 <sup>a</sup>	1 <sup>t</sup>	28	11	36 <sup>a</sup>	5.47	+ 1.44	1.68	0	9	8	11	12	w.	J. C. James.
Astoria.	Fulton.	650	14	62.2	+ 0.1	90	29	33	10	34	1.63	- 1.97	0.50	0	8	12	8	11	s.	Edward V. Bohl.
Aurora.	Kane.	678	34	58.5	- 0.6	84	2	32	11	33	7.01	+ 2.83	1.77	0	13	19	6	6	e.	Miss Alice M. Holden.
Beardstown.	Cass.	448	-	-	-	-	-	-	-	1.05	- 3.00	0.45	0	5	-	-	-	m.	Mrs. L. M. Rice.	
Bennett.	Piatt.	700	5	64.4	-	94 <sup>b</sup>	31	32	10 <sup>t</sup>	36 <sup>b</sup>	6.54	-	0.48	0	3	21	5	5	s.	N. N. Stevenson.
Bloomington.	McLean.	840	22	63.4	+ 0.2	90	31	30	11	38	2.88	- 1.62	0.97	0	6	18	3	10	ne.	Prof. H. N. Pearce.
Cairo.	Alexander.	359	41	68.4	+ 0.9	96	1	49	10	29	0.87	- 2.96	0.63	0	4	10	11	10	sw.	U. S. Weather Bureau.
Camp Point.	Adams.	732	0	-	-	-	-	-	-	3.38	-	1.28	0	9	12	13	6	se.	Capt. D. M. Morris.	
Carbondale.	Jackson.	412	8	67.2	-	97	31	39	7	41	2.10	- 1.32	0.65	0	8	18	7	6	sw.	State Normal University.
Carlinville.	Macoupin.	663	23	65.9	+ 1.6	96	30	36	24	45	1.23	- 2.93	0.64	0	5	15	9	7	s.	Blackburn College.
Carlyle.	Clinton.	470	28	-	-	-	-	-	-	1.20	- 2.97	0.50	0	3	-	-	-	m.	Hervey O. Jones.	
Chester.	Randolph.	380	21	-	-	-	-	-	-	2.20	- 2.04	0.96	0	10	-	-	-	m.	Charles S. Gollon.	
Clinton.	Dewitt.	727	3	63.0	-	90	31	32	11	35	1.54	-	0.58	0	7	13	11	7	sw.	J. Frank Ziegler.
Cobden.	Union.	656	30	67.9	+ 0.9	96	31	42	10 <sup>t</sup>	37	1.91	- 2.47	0.70	0	5	21	2	8	sw.	John Buck.
Dakota.	Stephenson.	929	8	57.4	-	87	1	28	10	36	7.27	-	2.20	0	17	10	11	10	nw.	Elmer G. Smith.
Decatur.	Macon.	635	23	64.8	+ 1.3	94	31	33	10	39	1.12	- 2.82	0.50	0	8	14	12	5	sw.	Prof. J. H. Coonradt.
Dixon.	Lee.	725	23	59.8	- 0.2	91	28	31	10 <sup>t</sup>	38	5.27	+ 0.47	1.10	0	14	13	2	16	m.	H. U. Bardwell.
Duquois.	Perry.	459	25	67.6	+ 0.3	96	30	40	12	38	1.22	- 2.43	0.43	0	6	16	11	4	sw.	G. H. Knetzger.
Dwight.	Livingston.	600	20	60.7	- 0.6	88	28 <sup>t</sup>	28	10	36	5.97	+ 2.28	3.04	0	11	11	6	14	ne.	Edward O. Welch.
East St. Louis.	St. Clair.	481	2	-	-	-	-	-	-	1.55	-	0.73	0	7	-	-	-	m.	W. McK. Brown.	
Edwardsville.	Madison.	554	14	-	-	-	-	-	-	1.84	- 1.54	1.00	0	3	-	-	-	m.	W. H. Morgan.	
Elgin.	Kane.	716	6	58.8	-	84	2	31	11	36	5.90	-	2.10	0	11	13	8	10	nw.	Elgin Observatory.
Fairview.	Franklin.	449	1	-	-	-	-	-	-	2.42	-	0.87	0	6	-	-	-	m.	Ewing College.	
Galva.	Fulton.	733	2	-	-	-	-	-	-	2.13	-	0.49	0	11	-	-	-	m.	Abram Wilson.	
Grafton.	Henry.	842	21	60.4	- 0.8	89	28	32	10 <sup>t</sup>	40	4.64	+ 0.60	1.05	0	16	-	-	-	m.	Prof. F. U. White.
Greenville.	Jersey.	422	20	-	-	-	-	-	-	0.56	- 3.20	0.35	0	5	-	-	-	m.	R. C. Goodrich.	
Griggsville.	Bond.	635	35	67.3	+ 3.0	96	30	40	10 <sup>t</sup>	39	1.04	- 3.41	0.79	0	5	19	10	2	s.	H. W. Reidemann.
Havana.	Pike.	650	28	65.0	+ 0.8	92 <sup>b</sup>	29 <sup>t</sup>	38 <sup>b</sup>	11	35 <sup>b</sup>	1.22	- 3.48	0.52	0	10	16	5	10	nw.	George F. Kneeland.
Henry.	Mason.	475	21	64.3	+ 0.1	91	29 <sup>t</sup>	33	11	43	1.90	- 1.79	0.60	0	8	12	7	12	w.	L. L. Euteneuer.
Hillsboro.	Marshall.	500	25	61.6	+ 0.4	87	28	32	11	35	4.15	- 0.10	0.95	0	13	14	5	12	ne.	Dr. F. A. Powell.
Joliet.	Montgomery.	675	19	65.8	+ 1.0	94	31	39	10	39	1.27	- 2.99	0.38	0	6	-	-	-	m.	Ira L. Woodward.
Kishwaukee.	Will.	609	22	58.4	- 2.2	86	2	29	11	40	5.21	+ 1.26	2.07	0	9	16	4	11	sw.	F. M. Muhlig.
LaGrange.	Winnebago.	730	25	57.2	- 1.1	86	1	29	11	37	5.52	+ 1.43	2.07	0	17	13	8	10	s.	George Stevens.
La Harpe.	Cook.	657	21	58.7	+ 0.2	86	2	30	11	35	5.28	+ 1.44	1.63	0	9	14	10	7	sw.	Prof. F. E. Sanford.
Lanark.	Hancock.	698	34	62.1	- 0.8	90	28 <sup>t</sup>	34	10	38	3.53	- 0.60	0.98	0	11	16	12	3	sw.	George E. Campbell.
La Salle.	Carroll.	883	24	57.8	- 1.1	88	28	28	11	36	6.94	+ 2.42	1.71	0	15	13	8	10	sw.	M. N. Wertz.
Lincoln.	Lasalle.	536	8	60.7	- 0.1	90	28	34	11	34	4.45	+ 0.53	1.16	0	12	10	8	13	sw.	U. S. Weather Bureau.
Macomb.	Logan.	575	25	63.4	+ 0.4	92	31	32	10	44	2.15	- 1.61	0.75	0	7	16	8	7	s.	Prof. C. S. Ogleyee.
Manteno.	McDonough.	700	9	-	-	-	-	-	-	2.75	-	0.85	0	12	-	-	-	m.	State Normal University.	
Martinton.	Kankakee.	711	7	-	-	-	-	-	-	5.87	-	1.75	0	13	17	8	6	ne.	State Normal University.	
Iraqnols.	St. Clair.	633	26	61.6	+ 0.8	90	28	29	10	45	5.79	+ 0.94	2.00	0	6	-	-	-	m.	J. F. Schmeltzer.
Mascoutah.	Woodford.	425	23	65.8	+ 1.1	98	30	33	7	40	1.26	- 3.40	0.55	0	5	18	11	2	s.	Joseph H. Peltier.
Minonk.	Warren.	745	20	61.6	- 0.9	89	28 <sup>t</sup>	30	10	39	5.29	+ 1.43	1.46	0	10	14	9	8	nw.	Dr. Robert F. Lischer.
Monmouth.	Grundy.	794	21	61.6	- 0.8	89	28 <sup>t</sup>	33	11	35	6.07	+ 2.15	1.00	0	14	16	1	14	s.	John C. Danforth.
Morris.	Whiteside.	518	2	59.7	-	87	28	28	10	38	6.13	-	1.63	0	9	14	7	10	e.	Dr. J. C. Hutchinson.
Morrisonville.	Christian.	685	19	59.8	- 0.5	91	28	31	10 <sup>t</sup>	40	6.01	+ 1.31	1.53	0	15	13	7	11	ne.	E. G. Cryder.
Mount Vernon.	Christian.	621	14	64.1	+ 0.6	91	31	31	10 <sup>t</sup>	40	1.02	- 2.32	0.35	0	6	13	12	6	s.	S. A. Maxwell.
Nashville.	Jefferson.	511	19	65.2	- 0.8	92	30	43	10	37	1.89	- 1.87	0.52	0	5	16	6	9	s.	J. D. Lewis.
Oregon.	Washington.	503	13	-	-	-	-	-	-	1.78	- 1.37	0.56	0	6	-	-	-	m.	Theodore P. Stelle.	
Ottawa.	Ogle.	702	4	59.3	-	87	1	29	10	34	5.19	-	2.00	0	12	12	5	14	s.	H. M. Potter.
Pana.	Lasalle.	500	27	61.4	- 0.1	89	28	31	11	41	6.71	+ 2.41	1.56	0	9	15	7	15	sw.	Samuel Ray.
Pawpaw.	Adams.	692	27	64.7	+ 1.4	92	30	34	10	36	5.36	- 0.73	0.42	0	5	21	7	3	sw.	Miss Maude M. Harris.
Peoria.	Peoria.	609	57	62.4	+ 0.7	90	29	35	10	34	1.85	- 2.41	0.53	0	12	11	9	12	s.	Dr. G. N. Gilbert.
Pontiac.	Livingston.	546	11	62.4	0.0	89	28 <sup>t</sup>	31	10	38	7.54	+ 3.00	1.91	0	10	13	7	11	sw.	A. C. McBride.
Quincy.	Adams.	481	7	65.3	-	92	31	39	10	37	2.90	-	0.49	0	12	18	8	11	sw.	George Butterworth.
Riley.	McHenry.	956	54	57.1	- 0.5	84	2	30	10	35	5.63	+ 1.97	1.65	0	8	16	9	6	sw.	Fred Brinkoetter.
Roberts.	Ford.	774	2	-	-	-	-	-	-	2.65	-	0.89	0	8	18	8	11	m.	John West James.	
Rockford.	Winnebago.	763	21	58.3 <sup>a</sup>	- 0.3															

TABLE 2.—*Daily precipitation for May, 1913. District No. 5, Upper Mississippi Valley.*

Stations.	Watershed.	Day of month.																														Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
<i>North Dakota.</i>																																			
Amenia	Red.		.22		T.																													T.	0.95
Bottineau	Mouse		.02		T.		.01																												1.09
Bowbells	do		.03																																1.40
Cando	Sheyenne		.02																																1.88
Crosby	Mouse	.06																																	35
Devils Lake	Sheyenne	.01	T.	T.	T.	T.																												1.54	
Donnybrook	Mouse																																		26
Dunseith	do		.02	T.	T.	T.	.02																											0.88	
Eckman																																			1.99
Fessenden	James																																		33
Forman	Sheyenne	.17	.08	.04																														3.27	
Grafton	Red.																																		83
Granville	Mouse																																		0.44
Hannah	Pembina																																		31
Hansboro	Red.																																		1.19
Hillsboro	do		.11	.06																														20	
Lakota	Sheyenne	.10																																	1.68
Langdon	Pembina																																		1.38
Larimore	Red.		.33	T.	T.	T.																												35	
Lisbon	Sheyenne	.09	T.	.24																														3.31	
McKinney	Mouse																																		1.99
McLeod	Sheyenne	.12	.14	.02																														1.51	
Manfred	do		T.	T.	T.																													4.00	
Mayville	Red.																																		2.47
Milnor	do		.14	.14	.05																													3.28	
Minot	Mouse																																		67
Minto	Red.		.09	.23																														21	
Oriska	Sheyenne	.15		.03																														1.53	
Park River	Red.		.05	.17																														1.43	
Pembina	do			.05																														1.19	
Power	Sheyenne	.26		T.																														0.59	
Towner	Mouse			.09	T.	T.																											2.22		
University	Red.		.12	.10	T.	T.	.10																										24		
Wahpeton	do		.10	.03	.18																													1.39	
Wallhalla	Pembina																																		1.57
Westhope	Mouse																																		1.87
Willow City	do			T.	T.																														1.16
<i>Minnesota.</i>																																			
Albert Lea	Mississippi	.25	.1	.25																														5.85	
Alexandria	do	.75	.14																																4.59
Angus	Red.	.18		.06	.07																													40	
Bagley	do																																		1.18
Baudette	Rainy	.03	.04	.23	.06																													2.18	
Beardsley	Minnesota	.14	.38	.12																														22	
Bemidji	Mississippi	.31	.33																															1.76	
Bird Island	Minnesota	.16	T.	.35																														3.52	
Brainerd	Mississippi	.02	.37	.04																														3.08	
Caledonia	do		.10	.63	.16																													4.66	
Campbell	Red.	.21	.20	.50	.06																													3.73	
Cass Lake	Mississippi	.17		.80																														3.41	
Collegeville	do		.04	.22	.17	T.																											5.25		
Crookston	Red.			.21																													1.05		
Detroit	Rainy																																	2.63	
Ely																																		4.92	
Fairmont (near)	Minnesota	1.06		.14																														4.92	
Fairbault	Mississippi																																	3.48	
Farmington	do																																	3.48	
Fergus Falls	do		.16	.43	.16																												3.78		
Fort Ripley	Mississippi	.25		.21																													3.46		
Fosston	Red.	.03	.30	.29	.03	T.																											20		
Glencoe	Mississippi																																	2.40	
Grand Meadow	do			T.	.27	.25</																													

TABLE 2.—*Daily precipitation for May, 1913. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	
<b>Minnesota—Contd.</b>																																		
St. Paul.....	Mississippi	.01	.46	.03	.....	.....	.....	18	.15	.....	13	.05	.89	.31	.10	.03	.....	.28	.33	.04	T.	.....	.08	.03	T.	.....	.....	.....	.....	.....	.....	2.95		
St. Peter.....	Minnesota	.....	.40	.....	.....	.....	.....	.....	.....	.....	.....	.05	.65	.25	.65	.10	.20	.....	.04	.13	.08	.....	.03	.30	.....	.....	.....	.....	.....	.....	3.03			
Sandy Lake Dam.....	Minnesota	.37	.12	.....	.05	.....	.....	.15	.....	.....	.....	.31	.....	.12	.97	.08	.....	.....	.75	.44	.02	.....	.....	.....	.....	.....	.....	.....	10	T.	3.48			
State Sanatorium.....	do.	11	.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.30	.15	.15	.....	.....	.....	.....	.....	T.	T.	.....	.....	.....	.....	.....	.....	12	T.	3.27		
Stillwater.....	St. Croix	.....	.55	T.	.....	.....	.....	.07	.....	.....	.....	10	.....	1.27	T.	.27	.....	.....	.65	.30	.....	.....	10	.....	.....	.....	.....	.....	14	.....	3.56			
Taylors Falls.....	do.	.....	.60	.....	.....	.....	.....	.15	.....	.....	.....	10	.....	1.18	.05	.12	.....	.03	.88	.22	.....	.....	10	.....	.....	.....	.....	.....	14	.....	3.27			
Thief River Falls.....	do.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	.....	3.56		
Tracy.....	Minnesota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	1.57			
Warren.....	Red.	.....	.11	.11	.20	T.	.....	.45	.....	.....	.....	.....	.....	.....	T.	T.	.20	.....	.....	.....	T.	.....	.20	.....	.05	.....	.04	.....	23	75	2.04			
Warroad.....	Rainy.	.....	.35	.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.10	T.	.....	.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	17	3.85		
Winnebago.....	Minnesota	T.	1.10	T.	T.	.....	.....	.....	T.	.10	.....	.....	.....	30	.44	.50	.....	.40	T.	.01	.60	.15	T.	.....	.20	.35	.02	.....	35	12	3.85			
Winnibigoshish.....	Minnesota	.17	.25	.37	.17	T.	.....	.01	.25	.....	.....	11	.50	.25	.06	T.	.60	.....	.18	1.33	T.	T.	.18	.....	.08	.54	.09	.....	T.	.....	12	98		
Winona.....	do.	.....	.03	.16	.88	T.	.....	.01	.25	.....	.....	18	.37	.....	.....	.....	.....	.....	.....	.....	10	1.30	.....	.06	.02	.....	.30	31	.....	04	5.09			
Worthington.....	Des Moines	T.	.37	.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	T.	.18	.40	.55	.12	.45	.....	.50	.50	T.	.....	.....	.....	.....	.....	50	3.65			
Zumbrota.....	Minnesota	.....	.05	.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	1.57				
<b>South Dakota.</b>																																		
Milbank.....	Minnesota	T.	.36	.45	.....	.....	.....	.07	.05	.....	.....	.....	.....	.....	T.	T.	.85	.04	.04	T.	.23	1.13	.41	T.	.....	.23	11	.....	.....	3.97				
Sisseton.....	do.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	1.10	.....	.15	.....	.30	.65	.12	.....	T.	.....	.....	.....	.....	.....	2.42					
<b>Wisconsin.</b>																																		
Antigo II.....	Wisconsin	.....	1.10	.25	.20	.....	.....	.22	.....	.....	.....	.15	.....	T.	.92	.....	.32	.....	.22	.42	T.	T.	.....	.....	.81	.69	.62	.....	.....	5.92				
Barron.....	Chippewa	.09	.15	.17	.....	.04	.10	.....	.....	.....	.....	.17	.....	T.	.42	.73	.26	.1.20	.....	1.02	.48	.03	.....	.....	.....	78	5.64							
Beloit.....	Rock	.....	.20	.....	.10	1.05	.05	.07	.....	.....	.....	.60	.20	.25	.....	.....	.36	.64	.75	.....	.....	1.80	.....	.05	.....	.....	6.12	.....	3.83					
Big St. Germ'n Dam.....	Wisconsin	.03	.07	.32	.....	.....	.....	.....	.....	.....	.....	.14	.....	.03	.20	.14	.51	.....	.99	.13	T.	.....	.....	.....	.....	.....	6.77							
Brodhead.....	Rock	.....	10	1.13	1.18	.....	.....	.05	.07	.....	.....	T.	.73	.12	.20	.....	.....	1.33	.80	.....	.....	2.05	.....	.05	.....	.....	5.80							
Burnett.....	do.	.....	T.	.19	.85	T.	.....	.20	.....	.....	.....	*	.56	.....	.21	.....	T.	.1.37	.76	T.	.04	T.	.66	T.	.60	.36	.....	4.19						
Cornell.....	Chippewa	.18	.06	.20	.....	.....	.....	.19	.....	.....	.....	T.	.95	.04	.31	T.	.01	1.06	.12	.....	.....	21	.....	.03	.39	.....	6.34							
Cottage Grove.....	Rock	.....	.05	.21	1.20	.....	.....	.06	.....	.....	.....	T.	.70	.20	.75	.....	.....	1.50	.90	.....	.....	.....	.....	.....	.....	.....	7.92							
Darlington.....	Deerskin Dam	.....	.....	.....	1.03	.....	.....	.30	.....	.....	.....	.10	T.	.09	T.	.74	.....	.....	.70	.19	.06	.....	.....	.....	55	3.33								
Deerskin Dam.....	Wisconsin	T.	.....	.41	.....	.....	.....	.11	.....	.....	.....	.03	.70	.....	.20	.....	.....	.....	.....	.....	.....	1.12	.62	T.	.....	1.20	.....	5.22						
Delavan.....	Rock	.....	.15	.01	1.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.22						
Dodgeville.....	do.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.42					
Downing.....	Chippewa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	T.	.20	.....	.20	.40	.....	.20	.90	.12	.....	.....	.....	.....	.....	2.42					
Eau Claire.....	do.	T.	.07	.29	.....	.....	.....	T.	.05	.....	.....	.18	.02	.38	.63	.12	.65	.....	10	1.04	T.	T.	.....	.....	92	4.47								
Glen Flora.....	do.	.....	T.	.13	.....	.....	.....	.32	.....	.....	.....	.....	.....	.80	.18	.46	.....	.78	.14	T.	.....	.....	.....	.....	.....	75	3.56							
Grand Rapids II.....	Wisconsin	T.	.77	.88	.....	.....	.....	.16	.02	.....	13	T.	.31	.15	T.	.23	T.	T.	.80	.77	.07	.01	.05	.....	.....	10	1.25	.02						
Grantsburg.....	St. Croix	.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.00	.50	.....	.....	1.10	.....	.....	.....	.....	20	.....	.....	10	1.75							
Hancock.....	Wisconsin	2.12	.25	.....	.....	.....	.....	.....	.....	.....	.....	.12	.50	.32	1.30	T.	.35	.....	1.05	.05	.....	.....	.....	.....	.....	.....	13.75							
Hatfield.....	Black	.....	.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.45	1.25	.....	.....	.....	.....	.....	.....	11	13	.50	.....	15	5.09							
Hayward.....	St. Croix	.....	15	2.58	1.18	T.	.....	.25	.....	.....	.....	.52	.12	.76	.....	.....	.....	.....	2.20	.30	T.	T.	.71	T.	.....	.....	7.77							
Hillsboro.....	Wisconsin	40	.50	.....	.....	.....	.....	.01	.21	.....	.....	.02	.55	.88	.10	.26	.....	.....	.60	.40	.....	.....	10	1.10	.05	5.10								
La Crosse.....	Mississippi	.67	.16	.....	.....	.....	.....	.....	.01	21	.....	.....	.02	.55	.88	.10	.26	.....	.....	46	1.46	T.	.....	.18	.26	.38	T.	80	5.60					
Lake Mills.....	Rock	T.	.07	1.48	.....	.....	.....	.04	.....	.....	.....	.02	.98	.04	.41	.....	.....	T.	2.48	.58	T.	.....	.....	89	1.16	7.23								
Lancaster.....	Mississippi	1.92	.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.86	.14	.48	.....	.....	18	1.75	.29	.....	.....	8.02										
Long Lake.....	Wisconsin	.03	.49	.03	.....	.....	.....	.10	.....	.....	.....	11	T.	.18	.13	.....	.....	.57	.....	.79	14	T.	.....	.01	.39	3.60								
Madison.....	Rock	.....	.11	.99	.62	T.	.....	.04	.....	.....	.....	11	.02	.03	.88	0.08	14	1.82	.36	T.	T.	.08	.77	.41	.....	T.	6.63							
Marshfield.....	Wisconsin	.....	.77	.01	.....	.....	.....	.14	.....	.....	.....	.16	.02	.25	.19	.09	.....	.56	1.04	.....	.....	14	2.00	.04	6.22									
Mather II.....	do.	.....	.07	1.07	.56	.....	.....	.21	.05	.....	.....	.10	.50	.25	.50	.....	.....	.10	.01	.00	1.00	.....	.....	.....	.....	.....	5.77							
Meadow Valley.....	do.	.....	1.57	.....	.....	.....	.....	.....	.....	.....	.....	.42	.50	.30	.90	.....	.....	.30	1.06	.02	.....	.....	.04	.45	.....	4.58								
Medford II.....	Black	.....	.40	.....	.....	.....	.....	.....	.....	.....	.....	.14	.....	1.00	.07	.56	15	.....	10	1.10	.05	.....	.....	.03	.63	.....	4.71							
Merrill II.....	Wisconsin	.....	.36	T.	.....	.....	.....	.29	.....	.....	.....	.....	.....	.95	T.	.40	.....	.....	20	1.03	.....	.....	.....	.....	.....	.....	10	1.16						
Minocqua.....	do.	10	.....	.30	.02	.....	.....	.01	21	.....	.....	16	.....	.40	.12	.66	.....	.....	.95	20	.02	.....	.....	.05	.....	.....	4.41							
Mount Horeb.....	Rock	.....	.23	1.50	1.21	.....	.....	.12	.....	.....	.....	T.	.75	.20	.39	T.	.....	.....	22	2.01	.47	T.	.....	98	7.08									
Muscooda II.....	Wisconsin	T.	.62	1.00	.24	.....	.....	.09	.05	.....	.....	T.	.81	.65	.....	.....	.....	.....	80	1.07	.10	.....	.....	30	37	.....	6.55							
Neillsville.....	Black	.....	.50	.....	.....	.....	.....	.06	.....	.....	.....	1.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	98	6.55						
New Richmond.....	St. Croix	.....	.06	1.17	.....	.....	.....	.15	.....	.....	13	.53	.78	.19	.23	.61	.08	10	.06	.02	T.	T.	.....	.....	.....	2.99								
Oscceola.....	St. Croix	T.	.09	.15	.....	.....	.....	.15	.....	.....	20	.06	.76	.03	.76	.....	.....	1.23	.91	.01	.....	1.03	.....	.....	.....	.....	1.98							
Park Falls II.....	Chippewa	.....	2.8	1.65	.42	.....	.....	.12	.02	.....	.....	.56	24	T.	.27	.....	.....	.....	78	1.31	.34	T.	.....	.....	7.57									
Portage II.....	Wisconsin	.....	1.30	.30	.....	.....	.....	.40	.....	.....	45	.55	.....	.22</																				

TABLE 2.—*Daily precipitation for May, 1913. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																														Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
<i>Iowa—Continued.</i>																																			
Boone II.	Des Moines	.42	1.02	.07							.51	T.		.12	.52	.72	.73	.12		.90	.31	T.			.68	.28					T.	T.	6.40		
Britt.	Iowa	.32	1.78	.01							.45			.120	.84	.12	.01		.02	.68	.68	.62	.01			.23	1.27	.01			T.	T.	10.25		
Burlington II.	Mississippi	.40	.70	.80							.05	.03			.55	.76			.01	.10			.45			.04	.33								4.22
Carroll II.	Raccoon	2.11	.58								.76	T.		.24	.34	.08		.42			.94	.42				.50	.08								7.63
Cedar Rapids II.	Cedar	.53	.95	.74							.25	T.		T.	.79	.85			.04		.51	.62	T.			T.	.70	T.						6.03	
Charles City.	do.	.09	.94	.02							.56			.01	.73	.74	.05	T.		T.	.97	.77	T.			.06	.38	.23			T.	T.	5.55		
Clear Lake.	do.																																		
Clinton.	Mississippi	.35	.15	1.56	T.						.17			.20	.44	.69	.35		.23		.06	1.64	.18				.21	.84						7.07	
Columbus Junction.	Iowa	.05	1.00	1.70							.14			.03		.55	.29	.35		.15	T.	.55	.49	.15			.08		T.		5.74				
Davenport.	Mississippi	.50	.34	1.17							.07			.03	.32	.48	.11		.30		.05	.65	.18			.08	.20	.40			T.		4.89		
Decorah.	do.	.35	.85								.04	.54			.98	.66	.22				.66	.98			.03	T.						5.67			
Delaware.	do.	.08	1.41	.89							.07				.74	.43	.47				.43	1.38	.18										7.67		
Des Moines.	Des Moines	1.62	.17	.08							.04	.45			.06	.53	.67		.04	T.	.51	.41	.03	T.			.19	.16	T.					5.06	
Dubuque.	Mississippi	1.01	1.33	1.30							.03				.07	.60	.54	.34		T.	.33	.71	.15	T.			.29	1.41	T.					8.20	
Earlham.	Raccoon	1.65	.21	.02							.49				.26	.65	T.	.98			.13	.35	.51	.04			.05	.32						5.91	
Elkader.	Mississippi	.05	.21	.20							.33				.05	.70	.13	.37				.30	1.00										6.13		
Elma.	Wapsipinicon	T.	.90	.30	.02						.30				.02	.92	1.03	.12	T.		.03	.42	1.05	.03										5.48	
Estherville II.	Des Moines	.92									T.			.60	.50	.35			.30		.10	.75	.15			.40	.50						T.	5.17	
Fairfield.	Skink	T.	1.23	1.28	.01						.12			.68	1.04			.08	.07		.16	.33	.15			.06		T.		5.65					
Fayette.	Mississippi																																		
Forest City II.	Cedar	1.25	.42								.54				.40	.95	.25	T.		T.		.165	.22	.02			.15		.51			T.	T.	7.36	
Fort Dodge II.	Des Moines	1.05	.55								.75				.35		.125			T.	.40	.53											5.91		
Fort Madison.	Mississippi	.38	.43	1.50							.14				.22	.42	.45			.23	T.	.50	.27										6.04		
Gilmantown.	do.	.18	.20	.89							.25				.07	.59	.42	.62		.55	T.	.39	.05	T.			.15	.20	.35					4.91	
Grand Meadow.	Mississippi	4.01	1.54	.07							.01	.33				.66	.30	.34				.37	1.65			.01	.05	.06	.56					6.41	
Grinnell.	Iowa	.34	1.40	.48							.35				.06	.92	.13	.45			.08	T.	.34	.13	.04			.25	.25					5.28	
Grundy Center.	Cedar	.73	1.67	.10							.02				.62	.37	.37		.02	T.	.38	.97	.10										6.40		
Guthrie Center.	Raccoon	T.	1.88	.10							.01	.46			.18	.57	.07	.58	T.		.08	T.	.45	.106	T.									6.11	
Hampton.	Cedar	26	1.02								.50					.80	1.28	.75			T.	.70	.92	T.			.33	1.45	.05					8.04	
Humboldt.	Des Moines	.24	1.57	.02							.64					.68	.61	.66				.04	.53	.40	.01									5.56	
Independence.	do.	.03	1.35	.30							.02					.85	.47	.45				.01	.01	.37	1.00	.05	T.								6.21
Indiana.	Wapsipicon	1.32	.30	.25							.26					.54	.55	1.19			.12		.35	.10	.03									5.64	
Iowa City II.	Iowa	.37	1.17	.89							.10	T.			.02	.33	1.25	.95			.14			.26	.76	T.								6.91	
Iowa Falls II.	do.	.71	.97	.16							.31	T.				.12	.80	.23	T.			T.		.132	.48		T.								6.06
Jefferson.	Raccoon	1.55	1.15	.06	T.						.01	.61				.02	.75	.65	1.13	T.		.28	.28	.78	.82	.01								8.73	
Keokuk.	Mississippi	.20	.64	1.01							.09					.04	.17	.02	.43				.28			T.								3.87	
Keosauqua II.	Des Moines	.44	.94	1.07							.06	.10				.34	.05	.23	.30			.16				.02	.65							4.93	
Knoxville.	do.	.62	.48													.30	.66	.25																4.01	
Lacona.	do.	.09	1.55	.66							.23	T.				.03	.80	.12	.31			.02		.05	.20	.147								6.15	
Lansing.	Mississippi	.09	1.55	.66							.23	T.				.09	.01	.19	.06	.67			.13	.01	T.			.01	.56	.02	.03		4.01		
Le Claire II.	do.	.01	.48	1.40	1.00						.09					.19	.06	.67	.35				.13	.01	T.			.21	.40	.01	T.		5.61		
Mariahalla II.	Cedar	.05	1.75	.42	.03	T.					.75					.07	.12	.99	.43			.18	T.									6.18			
Mason City.	Skunk	15	1.06	.16							.75						.14	.38	.14	.88	T.											6.26			
Monroe.	do.	.08	1.60	.40							.35						.84	.86	.15				.15										6.51		
Mount Pleasant.	do.	.16	.90	2.19	.01						.12						.02	.48	.48			.80	.02									6.51			
Muscatawka II.	Mississippi	.29	.90	1.22							.02							.75	.66	.16													6.43		
New Hampton.	Raccoon	.32	1.05								.46							.02	.144	.14	.01												5.53		
Nora Springs.	Cedar	.33	.85	.11							.63							.02	.144	.14	.01												7.55		
Northwood.	Wapsipicon	20	1.35	.75	.205						.02	.36						.98	.90	.78	.02		.05	.03	.55	T.								6.93	
Ossage.	Cedar										.37							.123	.67	.52													7.18		
Oskaloosa.	Des Moines	.23	1.00	.61							.14							.12	.57	.94													4.95		
Ottumwa.	do.	.18	1.05	.99							.20							.32	.87	1.40													6.61		
Pella.	do.	.25	1.53	.75							.36	T.						.09	.19	.36	.16														

TABLE 2.—*Daily precipitation for May, 1913. District No. 5—Continued.*

\* Precipitation included in that of the next measurement.

<sup>†</sup> Separate dates of falls not recorded.

Precipitation for the 24 hours ending on the morning when it is measured.  
Precipitation is less than 0.01 inch rain or melted snow.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 5, Upper Mississippi Valley.

Date.	North Dakota.										Minnesota.										St. Paul.		Winnibigoshish.					
	Bottineau. §§		Devils Lake.		Lisbon. §§		Minot. §§		Pembina. §§		Collegeville.		Crookston. §§		Grand Meadow.		Montevideo. §§		Moorhead.		New Ulm. §§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	51	29	47	31	64	33	48	.....	44	22	73	42	43	31	82	44	55	35	42	32	81	51	85	30	84	55	52	40
2....	42	27	42	27	45	32	46	28	51	26	54	39	45	30	74	45	42	38	42	34	74	42	55	36	71	47	46	35
3....	60	35	59	34	65	34	61	30	48	34	55	40	65	35	67	46	53	39	61	35	54	45	55	32	58	47	52	34
4....	56	17	55	37	63	34	58	34	52	32	65	40	54	36	60	45	76	42	59	39	70	45	56	36	66	43	66	36
5....	52	11	51	32	62	31	56	32	50	30	59	44	55	34	61	45	66	42	60	34	60	44	64	36	62	47	58	33
6....	59	24	58	30	62	26	61	25	71	28	59	38	57	30	57	34	67	35	61	30	63	35	62	34	61	41	59	31
7....	59	33	57	32	63	30	62	33	52	32	58	42	60	35	54	37	54	45	54	42	63	40	53	35	51	45	52	31
8....	56	26	51	27	63	33	51	31	48	22	54	37	50	29	56	45	59	37	53	31	58	45	52	36	61	43	54	28
9....	60	32	55	27	68	33	60	36	52	28	54	34	53	30	55	34	56	33	56	32	62	36	54	26	55	37	55	25
10....	59	32	54	35	67	28	64	41	51	30	61	33	65	32	59	29	65	31	66	30	62	32	63	27	62	38	62	27
11....	71	41	73	46	62	38	73	41	62	51	62	42	62	40	64	34	67	43	64	45	62	40	64	41	64	44	68	31
12....	63	37	68	33	88	41	65	40	53	40	69	51	72	48	72	48	78	50	75	43	70	41	68	44	71	54	66	48
13....	51	28	50	26	68	33	53	30	59	22	62	45	50	32	65	44	66	47	58	34	63	52	66	42	67	46	64	42
14....	48	29	50	35	50	34	49	31	62	41	55	34	50	40	52	43	47	41	48	38	50	46	56	33	48	43	58	32
15....	62	38	62	39	67	39	63	37	52	34	55	34	57	36	52	42	68	38	60	38	60	41	52	32	51	43	46	31
16....	60	31	60	35	67	37	61	31	56	34	66	43	63	38	63	40	66	50	64	39	60	42	54	38	64	42	64	33
17....	55	36	52	36	67	42	56	39	57	28	60	44	55	42	64	48	64	46	58	38	63	47	52	38	62	48	64	42
18....	60	25	55	28	61	30	58	30	54	28	57	38	53	35	59	39	60	45	55	38	56	36	57	41	58	36	57	43
19....	52	37	51	35	52	40	47	41	56	32	51	38	58	35	53	42	48	40	50	39	48	43	53	32	50	42	55	30
20....	46	38	44	40	50	37	48	38	48	38	44	40	48	39	57	42	49	39	47	40	54	43	53	37	49	43	53	38
21....	55	39	54	37	50	39	53	39	51	35	49	39	50	41	56	42	50	40	48	42	51	43	46	38	52	42	45	35
22....	69	41	66	44	68	36	70	36	68	39	60	41	70	37	52	43	63	43	66	36	55	43	62	41	60	44	66	38
23....	70	43	71	43	77	45	72	44	68	44	70	43	75	45	68	37	80	40	76	46	70	38	69	36	69	45	66	39
24....	64	37	62	37	64	41	67	41	68	36	64	48	60	42	70	47	54	46	65	42	62	48	66	44	63	45	63	45
25....	69	41	66	42	73	41	66	43	71	36	62	31	65	43	58	40	62	37	63	45	55	39	60	29	63	37	60	31
26....	87	45	84	48	87	37	86	48	80	48	72	42	78	46	64	47	68	48	80	45	66	52	73	31	69	48	72	31
27....	94	48	92	55	97	46	93	51	92	56	89	55	91	52	81	47	93	50	95	53	89	52	88	53	87	52	88	52
28....	93	63	88	60	90	56	91	63	82	55	84	58	84	59	82	60	91	63	92	60	88	54	88	64	81	52	88	64
29....	83	64	83	58	96	56	83	63	82	51	85	63	87	53	88	63	92	64	89	58	92	64	79	53	88	63	73	55
30....	84	43	81	52	85	56	85	48	90	51	80	57	80	52	82	57	84	62	80	56	83	62	75	55	83	59	75	48
31....	88	57	77	37	88	56	87	58	81	50	83	59	75	53	80	50	85	53	84	51	81	51	83	43	81	58	80	48
Mns..	63.8	36.0	61.8	38.6	68.7	38.5	64.3	39.4*	61.6	36.1	63.6	43.0	62.3	39.8	64.7	43.8	65.4	43.6	63.7	40.6	65.7	45.2	63.3	38.1	65.2	46.6	61.9	37.5

Date.	Wisconsin.										Iowa.										Des Moines.		Dubuque.		Keokuk.			
	Eau Claire.		Grantsburg.		Hancock.		La Crosse.		Madison.		Prentice.		Wausau.		Algona.		Cedar Rapids. §§		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	86	60	84	53	86	60	86	61	82	55	79	56	81	54	85	54	88	51	84	54	84	59	84	61	84	58	84	57
2....	81	52	69	46	85	59	83	60	80	59	77	42	80	56	72	47	82	63	64	64	75	61	75	61	71	62	64	
3....	73	56	58	41	80	55	74	55	71	59	65	58	73	56	65	47	64	64	70	60	71	54	75	61	71	62	62	
4....	63	49	70	35	73	55	62	52	71	59	65	46	60	51	59	41	65	60	60	48	75	60	63	54	67	61	61	
5....	64	53	66	43	60	54	62	48	62	52	61	52	62	54	61	47	61	59	60	54	60	52	61	53	67	54	54	
6....	63	37	61	35	63	38	62	39	58	45	58	47	58	38	61	38	63	43	60	35	64	44	61	45	65	47	67	
7....	58	33	53	34	63	36	59	38	62	43	57	49	60	34	66	45	69	41	61	49	67	45	67	42	65	48	68	
8....	64	45	59	39	58	45	60	49	60	48	59	41	57	41	59	49	72	43	56	50	73	51	61	53	74	50		
9....	60	33	58	27	57	34	56	39	52	38	60	30	51	30	57	3												

TABLE 3.—*Maximum and minimum temperatures for May, 1913. District No. 5—Continued.*

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois. §§															
					Cairo.		Greenville.		La Salle.		Mon- mouth.		Mount Vernon.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	85	58	84	41	82	56	85	50	83	55	85	50	82	49	84	54	83	53	85	53
2.....	83	63	86	47	82	61	86	52	83	58	84	53	84	54	83	57	83	56	84	58
3.....	76	64	84	52	81	64	84	59	78	62	69	58	82	56	79	63	80	62	73	60
4.....	77	61	82	59	77	67	79	61	79	62	74	59	78	62	80	64	74	64	78	58
5.....	75	55	75	62	79	67	81	61	74	56	71	60	80	60	77	56	78	57	66	55
6.....	66	46	72	49	68	58	70	54	64	48	65	44	63	56	65	45	67	52	63	41
7.....	69	40	65	35	70	52	74	43	66	41	68	40	70	43	69	38	70	45	67	38
8.....	78	42	71	38	78	54	81	47	72	49	75	45	76	48	75	50	77	47	68	48
9.....	64	45	62	39	81	58	74	55	56	35	58	45	72	48	60	38	64	38	55	40
10.....	58	40	52	28	61	49	64	40	54	33	60	34	63	42	60	35	61	34	55	30
11.....	67	40	64	28	62	50	70	40	66	32	60	33	65	42	68	36	66	35	65	30
12.....	81	49	74	34	73	51	80	44	76	45	77	49	79	42	77	48	78	47	73	43
13.....	90	61	75	45	84	57	85	54	72	50	76	54	84	50	77	52	82	58	63	47
14.....	88	57	63	51	87	68	91	61	64	51	79	52	90	53	79	52	89	55	89	42
15.....	74	54	79	48	82	67	84	64	76	52	72	56	83	53	77	50	80	56	73	43
16.....	77	48	70	47	68	60	77	52	71	46	75	40	65	56	75	43	73	50	71	40
17.....	65	57	73	46	82	62	82	51	68	53	70	56	78	55	88	52	72	55	70	54
18.....	70	50	70	49	75	62	80	56	67	48	69	45	73	58	69	45	72	54	65	45
19.....	67	53	68	40	82	60	79	50	68	47	69	47	75	53	73	51	76	52	65	42
20.....	84	61	72	51	85	63	90	57	69	48	82	49	85	57	84	51	86	59	66	43
21.....	66	54	80	56	76	63	85	65	71	52	64	54	80	65	70	54	74	54	66	50
22.....	57	50	68	50	65	55	66	51	56	50	55	48	61	53	55	51	57	52	56	47
23.....	64	48	54	45	60	53	61	51	60	49	65	47	58	50	60	46	59	48	64	45
24.....	77	46	74	35	73	53	80	45	74	48	76	47	72	45	76	42	79	47	75	47
25.....	76	60	72	42	77	56	84	52	63	44	69	56	78	52	65	54	79	58	63	41
26.....	70	56	55	44	79	60	77	59	62	48	60	54	76	61	63	51	70	54	54	44
27.....	79	51	63	45	74	57	77	52	73	44	77	44	72	53	75	46	75	51	75	38
28.....	90	59	76	46	88	57	91	52	90	60	89	59	88	52	89	56	91	58	84	61
29.....	93	65	76	50	88	64	90	58	87	59	89	63	87	60	90	64	92	66	86	56
30.....	91	72	71	54	88	71	96	70	82	68	88	63	92	69	85	66	89	73	80	60
31.....	91	69	80	56	96	71	95	67	84	63	88	63	89	67	88	65	93	68	80	58
Mns.....	75.7	54.0	71.3	45.5	77.4	59.5	80.6	54.0	71.2	50.2	72.8	50.5	76.7	53.7	74.0	50.8	76.4	53.5	69.1	47.0

a, b, c, etc., indicate, respectively 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.